CHROMOPHARE® D650, D660, D530, & D540
PREINSTALLATION MANUAL

Pre-Install Manual: 700000006

Related Publications:

700000088 Operator Manual

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INTRODUCTION & GENERAL INFORMATION

This Pre-Installation Guide details and describes the structural, mechanical, and electrical requirements of the room or site to allow proper installation of BERCHTOLD CHROMOPHARE® D-Series Surgical Lights and Flat Panel products. (D-Series Surgical Lights include D650, D660, D530, and D540.)

It is intended for use by technical individuals involved in the specification, design, and construction of the room or site, such as architects, structural engineers, contractors, electricians, and pipe fitters.

The Hospital and/or its contractors are responsible for the preparation of the room or site including the superstructure design and installation and all other mechanical and electrical requirements described within this guide and those specified by AHJ (Authorities Having Jurisdiction).

Painting and flooring need to be completed before the product can be installed.

Questions pertaining to the information contained in this guide can be addressed by contacting your local BERCHTOLD Technical Service Representative or BERCHTOLD Technical Service at 1-800-243-5135.This guide is applicable to the following BERCHTOLD products:

CHROMOPHARE® D650 and D660

CHROMOPHARE® D530 and D540

All multiple combinations of the CHROMOPHARE® D-Series.

Stand alone Flat Panel Products

Flat Panel combined with either one or two CHROMOPHARE® D-Series lights.

SUPERSTRUCTURE DESIGN AND SPECIFICATION INFORMATION

The customer/contractor has responsibility to ensure the superstructure design meets specifications. BERCHTOLD recommends that a Structural Engineer be involved in the design of the superstructure.

Important: Weights and moments must be adjusted when designing for use in seismic zones. Check with your local construction-engineering agency for applicable local and state codes.

RECOMMENDED DESIGN SPECIFICATIONS

BERCHTOLD Corporation **STRONGLY recommends** that the superstructure be designed to meet the following specifications. (Reference drawing on next page). Designing to these specifications will allow combinations of Light or Flat Panel product to be hung from the structure.

Product Type	**Weight (T)** lbs.	**Moment (M)** ft-lb with less than 0.1 º
Light / Flat Panel Combinations	375	1538

Loads to support structure				
Case	Fp	Tmax (LBS)	Vmax (LBS)	Mmax (Ft-#)
1	2.83	760	1107	7713
2	1.89	6.37	739	5663
3	1.54	592	602	4893

MINIMUM DESIGN SPECIFICATIONS BY PRODUCT TYPE

If the customer decides to design the superstructure to the requirements of the specific product type, the superstructure design specifications can be found in the table below.

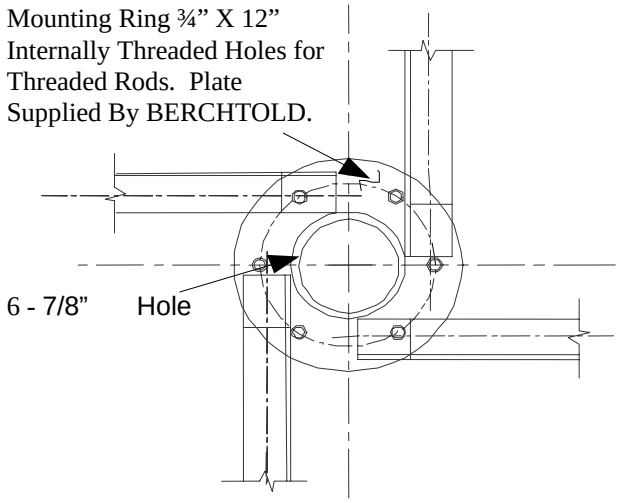
Product Type	**Weight (T)** lbs.	**Moment (M)** ft-lb with less than 0.1 ° rotation at
Single Light	114	360
Double Light or Double Flat Panel	197	656
Triple Light	311	1016
Flat Panel only	114	360
Single Light with Flat Panel	197	656
Double Light with Flat Panel	311	1016
Single Light with Double Flat Panel	311	1016

A representative superstructure is shown below. The engineer of record must verify that any structure meets all applicable building codes, especially in seismic zones.

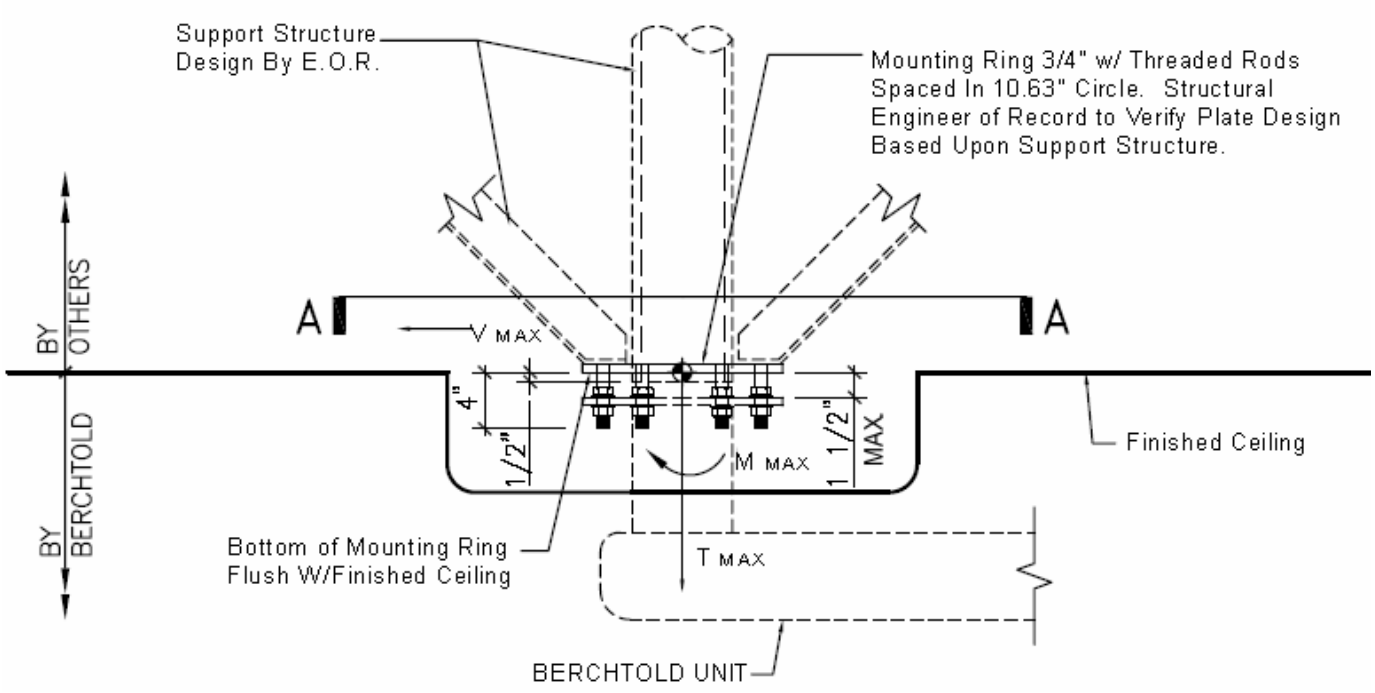
Important design notes:

1. Four (4) kickers are needed.
2. Kickers should be anchored (welding preferred) to the mounting ring as shown in Detail A. Do NOT anchor to vertical pipe.
3. The Mounting Ring (provided by BERCHTOLD) should be installed flush with the ceiling with the studs pointing down. Call 1-800-243-5135 for additional details.

NOTES:
1. LOAD USED FOR DESIGN:
TOTAL WT.:----------375 LB.
MAX. STATIC TORQUE—1538 FT-LB
2. MOUNTING RING IS DESIGNED FOR A MAXIMUM BRACE FORCE OF 2500 LBS @ 45° IN BRACING CONFIGURATION SHOWN



PLAN A-A



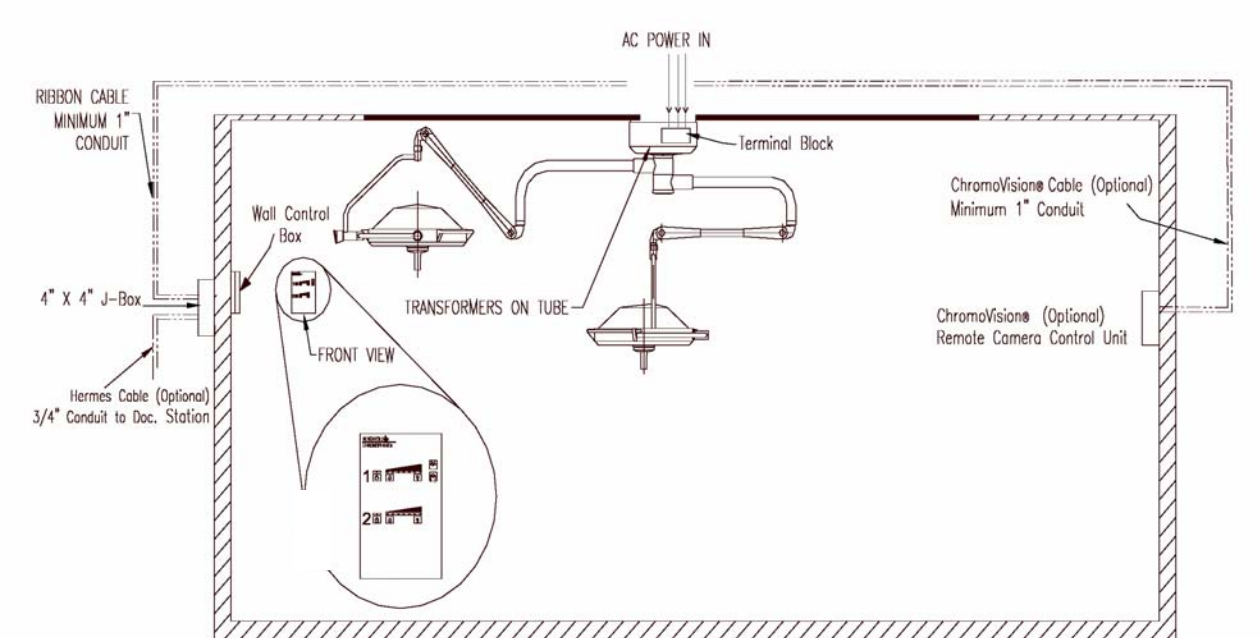
Superstructure Design – See Specifications on Page 3

ELECTRICAL REQUIREMENTS

Hospital/Contractor has responsibility for completing all wiring and conduit runs detailed below BEFORE the product can be installed.

ELECTRICAL REQUIREMENTS FOR STANDARD MOUNTING

Check with Site Project Manager or BERCHTOLD Customer Service to determine whether Standard Mounting or Low Profile Mounting style is to be used.



Standard Mounting – Layout Diagram (see page 6 for details and description)

STANDARD MOUNTING – DETAILS (SEE PAGE 5 FOR LAYOUT DIAGRAM)

1. AC Wiring

Wiring should be 3 wire, 14AWG min., and 600V.

Wiring for lights should be flexible conduit exiting ceiling at the mounting ring and falling 18", min., below ceiling.

CHROMOPHARE® lights require a 120VAC, 50/60 Hz supply. BERCHTOLD recommends a separate 120VAC supply for each mounting ring.

Each light head draws 2 Amps.

2. Conduit and boxes

A standard 4X4 junction box should be installed in the wall for mounting of the light Wall Control. Front of box should be flush with the wall. BERCHTOLD suggests that this box be located approximately 53" off the floor.

For each mounting ring a minimum 1" conduit, with finish grommets at each end, should be installed from the Wall Control junction box and terminated as close to the mounting ring as possible. **Note:** Conduit openings need to be easily accessible at both ends.

3. Optional Equipment

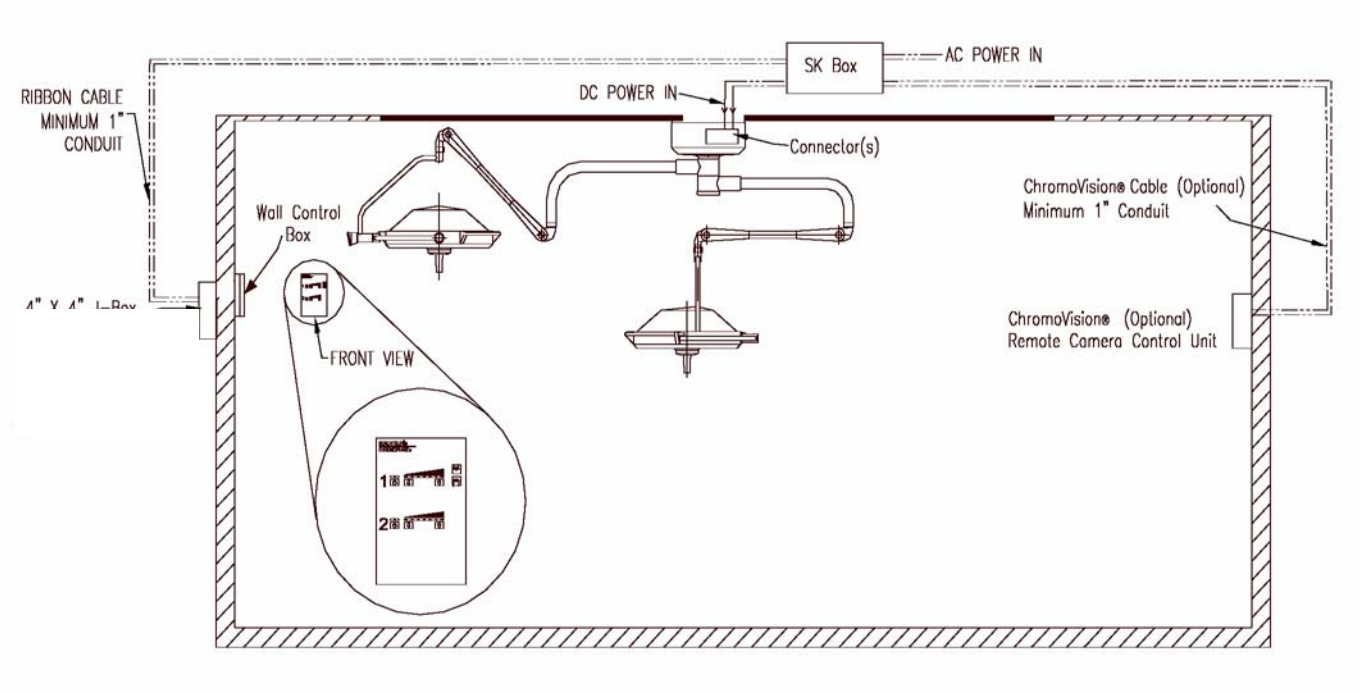
(Contractors – please check with customer to see if any options are to be installed.)

ChromoVision® camera system - Minimum 1" conduit, with finish grommets at each end, should be installed from the mounting ring to either a junction box used for mounting the camera control or the documentation console, per customer specification.

Communication Interface Systems – Conduit as required by the manufacturer of the interface unit.

LOW PROFILE MOUNTING – LAYOUT DIAGRAM

(See page 8 for details and description)



LOW PROFILE MOUNTING – DETAILS (SEE PAGE 7 FOR LAYOUT DIAGRAM)

1. SK Box Mounting

SK box must be mounted within 10' of mounting ring and be easily accessible. An access panel close to the box mounting location is recommended.

Single Light SK box weighs approximately 30 lbs.; double Light SK box weighs approximately 50 lbs.

2. AC Wiring (to input of SK box)

AC supply should be 120VAC, 50/60 Hz. Wiring to be 3 wires, 14AWG min., 600V rated wire and run per local code to the SK box and terminated to the fused terminal block inside the SK box.

Each light head draws 2 Amps.

3. DC Wiring (from SK Box to Mounting Ring)

12 AWG, 600 volt, 1 pair per light head and 1 ground wire per mounting ring. Wire is terminated to the non-fused terminal block inside the SK box.

Wiring should run from output of SK box and fall 18", min., from ceiling at the mounting ring.

4. Conduit and boxes

A standard 4X4 junction box should be installed in the wall for mounting of the light Wall Control. Front of box should be flush with the wall. BERCHTOLD suggests that this box be located approximately 53" off the floor.

Minimum 1" conduit, with finish grommets at each end, should be installed from the Wall Control junction box and terminated at the SK box

AC wiring – As required by local code.

DC wiring – As required by local code. **Note:** Conduit openings need to be easily accessible at both ends.

5. Optional Equipment

(Contractors – please check with customer to see if any options are to be installed.)

ChromoVision® camera system - Minimum 1" conduit, with finish grommets at each end, should be installed from the SK box to either a junction box used for mounting the camera control or the documentation console, per customer specification. **Note:** Conduit openings need to be easily accessible at both ends.

Communication Interface Systems – Conduit as required by the manufacturer of the interface unit.

FLAT PANEL PRODUCTS (WITH AND WITHOUT LIGHTS)

When included as part of a Light assembly:

1. AC wiring (In addition to Light AC wiring)

    Should be 3 wire, 14AWG min., and 600V. Conduit as required by local code.

    Wiring should exit ceiling at the mounting ring and fall 18", min., below ceiling.

2. Low voltage video cable conduit

    If conduit for low voltage cable is required by code then BERCHTOLD suggests 2" conduit to allow for the various types and quantities of video cabling that can be run. Conduit should run from the mounting ring to a destination determined by the customer. **Note:** Conduit openings need to be easily accessible at both ends.

Stand Alone Flat Panel Products:

1. AC wiring

    Should be 3 wire, 14AWG min., 600V. Conduit as required by local code.

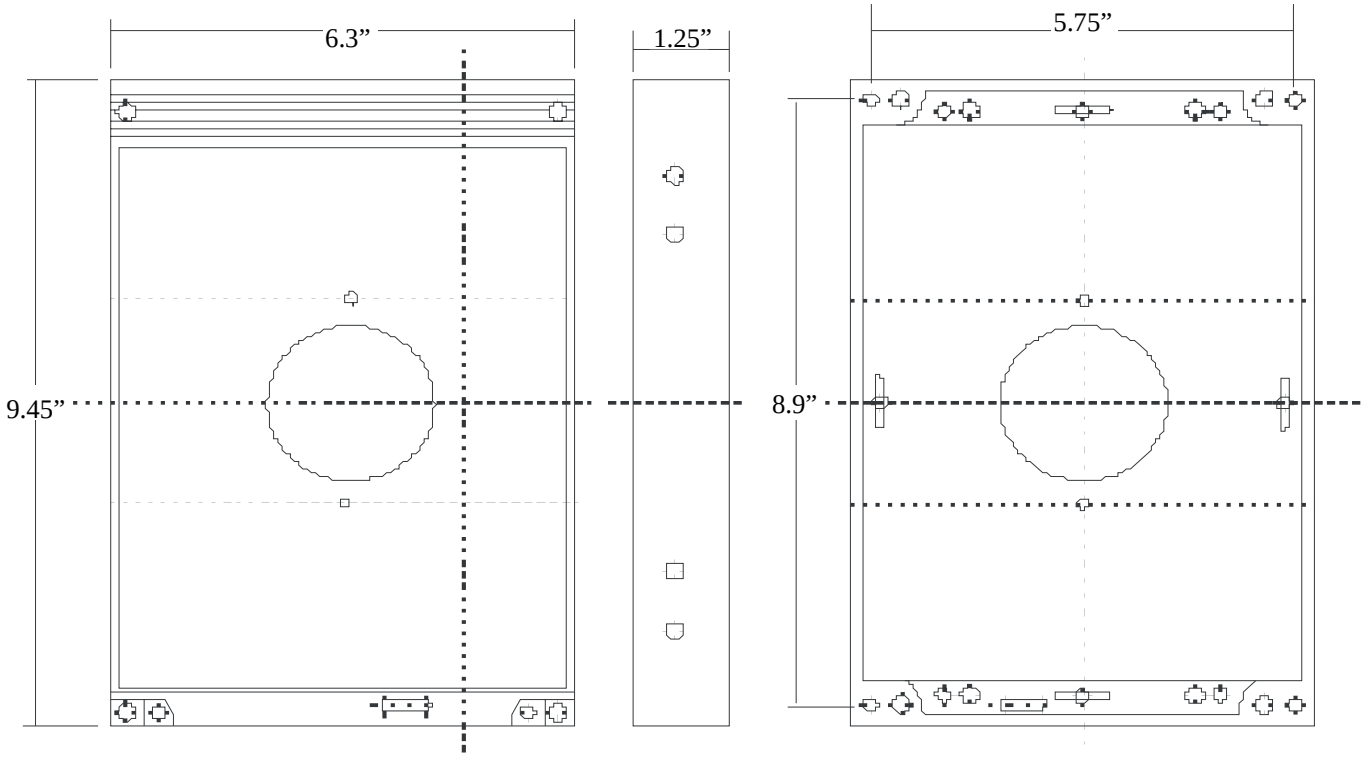
    Wiring should exit ceiling at the mounting ring and fall 18", min., below ceiling.

2. Low voltage video cable conduit

    If conduit for low voltage cable is required by code then BERCHTOLD suggests 2" conduit to allow for the various types and quantities of video cabling that can be run. Conduit should run from the mounting ring to a destination determined by the customer. **Note:** Conduit openings need to be easily accessible at both ends.

WALL CONTROL BOX DIMENSIONS

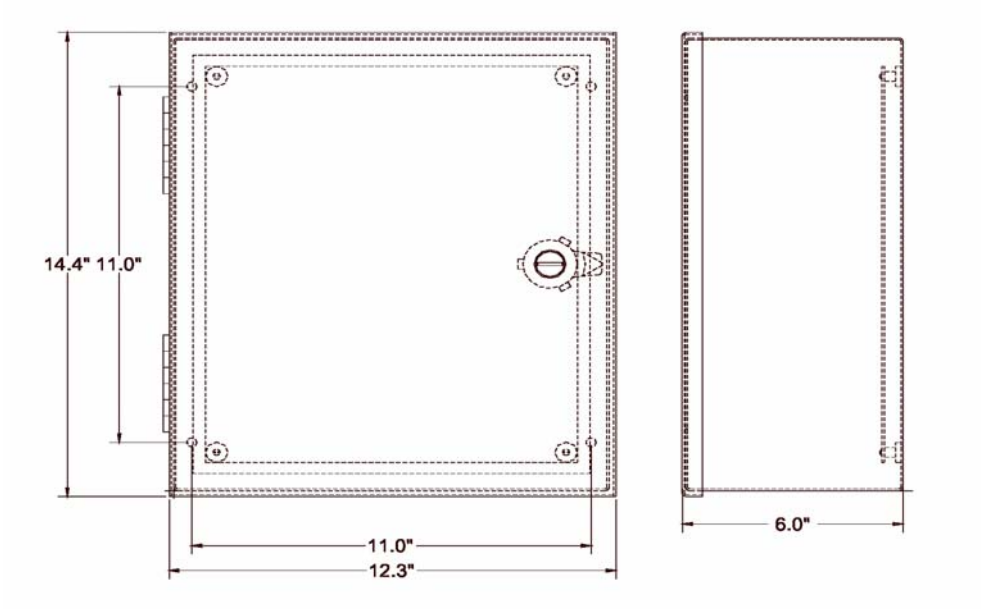
Back Panel (BERCHTOLD Dwg. 10-007-2030)



SK BOX DIMENSIONS

SK Box for Single & Double Light

Note: Triple light uses one double SK box and one single SK box.
BERCHTOLD dwg. 71039, Hoffman Engineering No. A-14N126



PRE-INSTALLATION GUIDE PUBLICATION HISTORY

This publication describes the equipment as of the date of issue listed below. BERCHTOLD Corporation reserves the right to make changes in design or specifications at any time without notice. If you find any difference between the equipment you received and the components or assemblies described in this publication, contact BERCHTOLD Customer Service at 800-243-5135 for information.

PUBLICATION HISTORY

Revision	Issue Date
Revision 1	Original Issue: September 2002 (ECO 20149)
Revision 2	November (ECO 21108)

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